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Notice of Allowability

Application No.

10/750,508

Examiner

Patricia T. Nguyen

Applicant(s)

MALOBERTI ET AL.

Art Unit

2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to response filed 11/23/05.
2. ☒ The allowed claim(s) is/are 5-13 and 18-21.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 12/31/03
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

The application has been amended as follows:

Claims 1-4 and 14-17 have been canceled since they are nonelected claims in an allowable case.

Allowable Subject Matter

Claims 5-13 and 18-21 are allowed.

The following is an examiner's statement of reasons for allowance: prior art, U.S. Patent # 5,847,600 of Brooks et al., does not teach nor render obvious a pipelined analog-to-digital converter that has, in combination with other limitations, the sample-and-hold circuit operates according to a sample phase responsive to the first clock phase, and a hold phase responsive to the second clock phase, the sample-and-hold circuit generating an approximate output voltage during its sample phase; wherein the analog-to-digital converter stage of the first pipeline stage operates according to a sample phase responsive to the first clock phase to sample the approximate output voltage of the sample-and-hold circuit, and an operate phase responsive to the second clock phase; and wherein the residual gain generator circuit of the first pipeline stage

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operates according to a sample phase responsive to the second clock phase, and an operate phase responsive to the first clock phase; nor does it have a method of converting an analog input signal to a digital signal that has the steps of, in combination with other limitations, in the second clock phase, operating the first analog-to-digital converter to produce a digital output bit, and operating a first digital-to-analog converter to produce a reference voltage, both corresponding to the sampled approximate sampled output voltage; and in the second clock phase, operating a first residual gain generator circuit to sample the corrected sampled output voltage and to generate an approximate residual voltage responsive to the corrected sampled output voltage and the reference voltage; and in a next instance of the first clock phase, operating the first residual gain generator circuit to generate a corrected residual voltage.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patents # 5,847,600 , # 6,489,904 B1, # 5,990,820, # 6,323,791 B1, and # 6,166,675 contain some limitations of the claimed invention.

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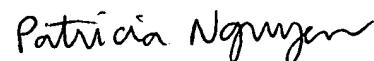
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia T. Nguyen whose telephone number is (703) 308-1927. The examiner can normally be reached on 6:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on 703-309-4940. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PTN

January 12, 2006



**PATRICIA NGUYEN
PRIMARY EXAMINER**